

Rats and Their Ratty Ways

Everything about the rat makes it a champion at survival. Of all the mammals, only humans have been more successful—at least so far. Just think about what a rat can do. It can:

- Squeeze through a pipe the width of a quarter
- Scale a brick wall, straight up
- Fall off a five-story building and land safely on its feet
- Rear up on its hind legs and box with its front paws
- Get flushed down a toilet and live
- Climb up a drainpipe into a toilet bowl

The rat's body is built for survival. A rat can collapse its skeleton, allowing it to wriggle through a hole as narrow as three-quarters of an inch. An adult rat's jaws are hundreds of times more powerful than a person's. Large muscles allow it to bite down with a force of 7,000 pounds per square inch, about the same force as a crocodile's jaws. Its teeth are stronger than copper and lead.

Gnawing through bone and wood is no problem—for a rat. A sheet of iron a half inch thick is no problem, either. Rats gnaw through iron cabinets to get at food, and concrete to get various minerals they need to build bones and teeth. Rats have even gnawed through dam walls, starting floods that wash away entire villages.

We do not know when the first rat scurried aboard a ship. Most likely, it happened about 3,000 years ago, when our distant ancestors first built and sailed ships. Being fast learners, rats found that life was good aboard ship. The dark, damp storage areas belowdecks held everything they needed for a healthy ratty existence. They drank from the barrels of fresh water kept for the crew. They feasted on sacks of grain and other foods meant for the crew and for sale in distant markets. Ships' cargo, particularly cloth, made for warm, cozy nests.

Oddly enough, despite sailors' hatred of rats, their presence aboard seagoing vessels gave the crews a feeling of security—that everything was "normal." Yet seeing rats swarming on deck, much less rats leaping overboard, was a sure sign of trouble. This made sense, for if a ship sprang a bad leak, the rats knew about it before the crew, since their hiding places belowdecks filled with water. To avoid being trapped, they scurried topside and then leaped overboard. When sailors saw them do so, they knew their ship was doomed. Then the cry went up: "Lower the lifeboats!" We still say that people fleeing danger in panic are "like rats leaving a sinking ship." Even when a ship was moored at dockside, sailors kept an eye on rats. If they noticed rats leaving their ship, crewmen would refuse to go aboard, because rats sensed trouble even when humans saw nothing to fear.

Rats and People

Today breeders raise rats for pets, just like dogs and cats. Disease-free and easy to care for, a tame rat usually costs ten to fifty dollars and makes a wonderful pet. Owners can train these intelligent animals to do tricks such as pulling miniature wagons and climbing ropes paw over paw. In schools, rats often join hamsters, guinea pigs, and rabbits as classroom pets. Learning to care for these animals teaches respect for all creatures. More than 550,000 American families own pet rats and mice.

Sometimes rats befriend people. In the 1960s, during the Vietnam War, an American prisoner was held in solitary confinement by the enemy. He was not allowed to see or speak to any other person except the guard. One day, a rat wandered into his cell and sat beside his cot. The prisoner, glad to have "company," fed it from his dish. In time, they became so close that the rat visited him every day. He fed it, played with it, and talked to it for hours. The rat, he said, seemed to understand him. Whether it did or not, it relieved his loneliness. When the rat failed to appear for a few days, he felt sad. When it returned minus a leg, he welcomed it as a dear friend.

Pesky Rats

Wild rats are pests. They can't help themselves; it is in their nature. Since they eat the same food humans do, we are constantly at war with them. "Each year," according to one expert, "rats in Asia consume at least 48 million tons of rice—enough to feed a quarter of a billion people. When we talk about rodent control, we're talking about human survival.

In India alone, rats eat or spoil enough grain in a year to fill a freight train 3,000 miles in length. Estimates vary, but worldwide experts say, rats eat or destroy between one-fifth to one third of the human food supply. In the United States, the Department of Agriculture estimates that rats spoil over 400,000 tons of food a year with their urine and droppings.

Moreover, rats attack our buildings by gnawing wood, pipes, and walls. Their gnawing of matches and the insulation around electric wires causes fires. Bold burglars, they have stolen keys, coins, and jewelry. Apparently, they like shiny objects. Rats even chew up paper money to make their nests.

Rats also bite people, nearly always at night. While prowling for food, they probably brush up against a sleeping person; when he or she moves, startling them, they bit in self-defense. The U.S. Public Health Service estimates that rats bite some 14,000 Americans every year. According to the United Nation's World Health Organization, the yearly number of rat bites worldwide is around a million. Although this may seem like a lot it is a small number since three billion people go to bed every night.

Rats to the Rescue

Laboratory rats have taught us a lot about how diseases attack the human body. Researchers implant cancer cells in rats' bodies to see how they take root and spread. Government scientists proved that tobacco causes cancer by exposing rats to cigarette smoke. New medicines are regularly tested on rats before being used to treat sick people. For example, the human body has a natural tendency to reject transplanted hearts, eye corneas, and other organs. By first testing antirejection drugs on rats, scientists have saved the lives of countless surgical patients. By law, American children must be vaccinated against such diseases as polio. Dr. Jonas Salk, who developed the polio vaccine did many experiments on rats to test it.

In the future, scientists hope to use information gained from rats to conquer various human disabilities. Recent experiments suggest that wiring computer chips to rats' brains might enable blind people to see, deaf people to hear, and paralyzed people to move. Similarly, electrical hookups to rats' brains indicate that they dream while asleep. Scientists wonder if learning how rats dream can help humans to learn better and to improve their memory.

Yummy Rats

Throughout history, people have eaten rodents as a delicacy. Roman emperors served their guests roasted dormice dipped in honey or baked and stuffed with port. On the American frontier, pioneers found possum and squirrel a treat; in some states, people still do. South American Indians ate roasted guinea pig many centuries before Europeans reached the New World; they still do. The World Health Organization (WHO), an agency of the United Nations, reports that seven million guinea pigs are sold as food in Peru each year.

Rat meat is rich in protein, and since no creature can live without the right proteins in its diet, some nutritionists believe rats might solve the problem of world hunger. Due to their plentitude, they say rats offer a cheap meat source.

Some U.S. government scientists agree. In a recent research project, they made sausages out of different mixtures of rat meat and pork. Those who sampled the dishes voted that a blend of half and half tasted best.

Eating rat is not very different from eating other rodent meat. The human stomach can digest any type of meat. Thus it is not the meat, but what we think of it, that counts. If we think something is disgusting and unhealthy, then our brain sends that message to our stomach, causing nausea. A rat raised for food is no more diseased or "gross" than a chicken, pig, or cow raised for the same purpose.